UNITED STATES PATENT AND TRADEMARK OFFICE

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Saul Ewing LLP (Philadelphia)
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EXAMINER
WANG, ALBERT C

ART UNIT	PAPER NUMBER
2115	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>25 July 2008</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>2-24</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>2-24</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This Office action is responsive to the amendment filed 25 July 2008, wherein sole

independent claim 1 has been replaced by new claim 24.

Claim Objections

2.   Claims 22 and 23 are objected to under 37 CFR 1.75(c), as being of improper dependent

form for failing to further limit the subject matter of a previous claim. Applicant is required to

cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or

rewrite the claim(s) in independent form. See *Ex parte Porter* 25 USPQ2d 1144, 1147.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

4.   Claims 3, 4 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the written description requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to reasonably convey to one skilled in the relevant

art that the inventor(s), at the time the application was filed, had possession of the claimed

invention.

        Claim 3, which claims decompressing the first data file as a whole, depends on and is

contrary to claim 2, which claims the first data file comprises a plurality of compressed

components. The specification teaches that decompressing a whole image is distinct from

decompressing a plurality of components (page 10, lines 1-18).

Claim 4 claims that the one or more components are copied to the executable memory independently of other components of the first data file. The specification teaches decompressing the core OS as a whole (page 10, lines 1-18), and does not expressly teach copying components independently of each other.

Claim 9 claims that the first data file, which according to claim 7 comprises core operating system data, comprises selected components of the ROFS system. The specification teaches that components of the ROFS image are shadowed on demand, unlike the Core OS image which is permanently shadowed (page 11, line 15, page 12, line 4).

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6.   Claims 2-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 recites the limitation "the further data file" in lines 4, 6 and 7. There is insufficient antecedent basis for this limitation in the claim.

7.   Claim 2-24 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the relationship between "further data files" and "the further data file" in claim 24.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

9.   Claims 2-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maleug et

al., U.S. Patent No. 7,120,730, in view of Chen et al., U.S. Pub. No. 2006/0190939.

As per claims 7 and 20-24, Maleug teaches a method of operating a computing device,

the method comprising:

storing further data files in non-executable NAND flash memory of the computing device

(figs. 1-3, in non-linear memory 110; col. 1, lines 43 – col. 2, lines 25, NAND flash memory

advantageous despite being non-executable; col. 3, lines 30-50, non-linear memory typically

NAND flash memory; col. 3, line 65 – col. 4, line 31, image 200 comprising binary images);

copying a first data file comprising core operating system data to executable RAM

memory (fig. 6, step 602, kernel loaded into RAM 104; col. 5, lines 1-9; col. 6, lines 13-31); and

presenting the first data file in executable memory and the further data files in non-

executable memory as an executable composite file system (fig. 4, files in RAM 104 and non-

linear memory presented a binary file system; col. 3, lines 30-50, executable file system 106; col.

4, line 55 – col. 5, line 50; col. 6, lines 31-45);

wherein the first data file is accessed from the executable memory (col. 6, lines 13-31),

and the further data file is accessed by selectively copying one or more components of the further

data file to the executable memory (col. 4, line 55 – col. 5, line 40, binary images 200a-200n

loaded as needed).

Maleug teaches does not expressly teach whether or not the kernel is initially stored in the non-executable memory. Chen teaches that in mobile devices firmware such as the kernel is typically stored in flash memory (figs. 1-3; pars. 0005-0007; pars. 0032-0033, non-volatile memory such as flash memory). At the time of the invention in view of Chen, it would have been obvious to one of ordinary skill in the art that Maleug's kernel may be stored in the non-executable memory, as storing in NAND flash memory is well known in the art.

As per claims 2 and 4, Maleug teaches a boot loader allows for compression of data (col. 1, lines 51-56; col. 6, lines 13-30). Chen teaches the first data file comprises compressed components which are decompressed when copied to the executable memory (par. 0033, multiple compressed write units).

As per claim 3, Chen teaches the first data file is decompressed as a whole when copied to the executable memory (par. 0027).

As per claims 5 and 6, Chen teaches firmware may be all compressed and decompressed as needed (pars. 0026 and 0030).

As per claims 8 and 9, Maleug teaches the core operating system data comprises program code for enabling boot-up of the computing device and access to read only file system (ROFS) data for the computing device (fig. 6, step 602; col. 6, lines 25-39). Chen teaches the core operating system mounts the file system (par. 0032).

As per claim 10, Chen teaches the further data file comprises ROFS data (CramFS – compressed ROM file system).

As per claims 11 and 12, Maleug teaches the further data comprises an executable program or a dynamic link library (col. 3, line 65 - col. 4, line 20).

As per claim 13, Maleug teaches the selected data is in the form of one or more ROM images (col. 5, line 63 – col. 6, line 12).

As per claim 14, Maleug teaches the location of at least one of the first and further data files within the non-executable memory is determined by reading an address from a section of the non-executable memory (col. 5, lines 10-22).

As per claim 15, Maleug teaches additional data is selectively copied to the executable memory in addition to the first and further data files in the composite file system (col. 5, lines 1-9).

As per claim 15, Maleug teaches additional data is selectively copied to the executable memory in addition to the data in the composite data file system (col. 5, lines 1-9).

As per claim 16, Maleug teaches a method according to claim 15 wherein the additional data is selectively copied to the composite data file system (col. 5, lines 1-9).

As per claim 17, Maleug teaches the additional data comprises a language pack image (col. 3, line 65 – col. 4, line 10).

As per claim 18, Maleug teaches a common driver is used to selectively copy the first and further data files to the executable memory (col. 4, line 55 – col. 5, line 40).

As per claim 19, protecting system files or limiting access from a user is well known in the art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALBERT WANG whose telephone number is (571)272-3669. The examiner can normally be reached on M-F (9:30 - 6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Thomas C. Lee can be reached on 571-272-3667. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Albert Wang/
Examiner, Art Unit 2115

/Thomas Lee/
Supervisory Patent Examiner, Art Unit 2115